Division I Introduction
Chapter I-1 Background and Intent of Document

I-1-1 Introduction

Washington State's population is growing at a rate that is placing ever-increasing demands upon its transportation system. Urban roadways, in particular, are suffering from significant additional burdens. Engineers and planners from state and local agencies are tasked with reconciling multiple, sometimes conflicting, expectations for urban roadways.

Figure I-1.1 – Urban State Highway

(Source: SR 14, Stevenson, WA)

Much of the apparent conflict involves optimizing the competing needs of safety, aesthetics, environment, mobility, and access. The tradeoffs between quantitative and qualitative factors are not always clear. Further biases between advocacy groups has often led to an unwillingness to hear both sides of the issues at hand. Within Washington State key issues include:

- Access management,
- Urban median design,
- Bike and pedestrian access and safety,
- Tree and street furniture placement,
- Traffic calming devices,
- Business access, and
- Facilities' operational intent.

To best address the challenges of these issues, WSDOT has initiated a number of efforts to integrate community involvement and collaborative decision making into the project development process, and to lay out the complicated issues early.

I-1-2 Purpose and Need

Understanding flexibility in design is a difficult, often time-consuming process. This document is intended to assist the (those involved with the project development and design processes) designer in understanding concepts related to a context sensitive design. Each division addresses different aspects of design and provides the professional with the tools and concepts necessary to understand the complexity of each element.

The divisions are developed by professionals with specific expertise in that field. The concept presented will help lead the designer to a balanced design. The flexibility in transportation design document is not intended to be inclusive of all the elements at hand; rather it is guidance to assist in the decision making process.

It is the intent of this document to prompt the user to consider the tradeoffs associated with the context sensitive design elements in order to optimize the surrounding conditions and resources.

I-1-3 Washington State Department of Transportation's Efforts

WSDOT believes that a good process should result in the following:

- A project satisfying the purpose and need, as agreed to by a full range of stakeholders. This agreement is forged in the earliest phase of the project and is amended as necessary.
- Projects optimizing the safety of the facility for both the user and the community.
- Projects developed in harmony with the surrounding community, and preserving the environmental, scenic, aesthetic, historic, and natural resource values of the area.
- Projects designed and built with limited disruption to the adjacent community.
- Projects involving the efficient and effective use of all parties' resources.[1]

WSDOT's On-Going Efforts

The principle of flexibility in design is not dissimilar to the processes local agencies and WSDOT currently employ. Processes like the National Environmental Policy Act (NEPA), Community Impact Assessment (CIA), and public involvement, in general, all call for an earnest attempt to bring stakeholders to the table and engage in meaningful discussion that will lead to community-based decision making.

WSDOT has a number of efforts underway which embody the fundamental principles of the CSD and community-based project development

[1] "Thinking Beyond the Pavement", National Conference, 1998

approaches. WSDOT's commitment to these approaches is reflected in the Context Sensitive Solutions Executive Order (E 1028.00) and the 2003-2022 Washington Transportation Plan (WTP). The WTP calls for effective community-based design and collaborative decision making in Goals 9 and 10 of the Plan[2], respectively, and are detailed below.

Goal #9 Effective Community-Based Design:

Integrated community design, land use, and transportation investments improve quality of life.

Goal #10 Collaborative Decision Making:

Collaboration occurs between federal, Tribal, state, regional, local, and private sector partners.

A number of other on-going efforts also illustrate WSDOT's commitment to community-based design. These efforts are described in greater detail in the following sections.

Safety and Aesthetics in Urban Roadway Design

A March 2001 Value Engineering Study on Urban Roadside Treatments recommended the development of comprehensive policy guidance for aesthetic urban roadway design. As a result, in June 2001, the WSDOT Design Office launched a new effort, "Safety and Aesthetics in Urban Roadway Design".

In a true partnership spirit, the effort created an interdisciplinary group, comprised of representatives from cities, the Association of Washington Cities (AWC), the County Road Administration Board (CRAB), the Federal Highway Administration (FHWA), Metropolitan Planning Organizations (MPOs), and various disciplines within WSDOT including Design, Planning, Traffic, Project Development, Local Programs, and Landscape Design.

The group meets on a quarterly basis and assists in the identification of priorities, potential issues, and work elements; allows for two way communication; and assists in the identification of task specific subcommittees and members.

The work from this group and its subcommittees has resulted or will result in the development of a number of tools. These tools include:

- This document on flexibility in transportation design;
- The development of revised or new design policy, including:
    - A *Design Manual* Design Clear Zone Supplement;
    - Instructional Letter (IL) 4053.00 - "Jurisdiction over State Highways within Cities;"
    - An In Service Evaluation Process for new design concepts on state highway systems, as proposed by local agencies;
    - Urban Design Standards supplement;
- New communication tools, including:

[2] WSDOT, Washington's Transportation Plan, 2003-2022

    - The interdisciplinary group itself;
    - The Urban Design Alternatives Treatment Brochure;
- Future training efforts;
- State research of crash testing of new aesthetic roadside barriers and designs; and
- National research on aesthetic designs.

Community Partnerships Forum

WSDOT also created the Community Partnerships Forum, which was formed to improve WSDOT and local agency relationships – particularly on projects planned, scoped, and constructed in urban areas. The Community Partnerships Forum is also a multi jurisdictional group, responsible for the development of the *Building Projects that Build Communities* guidebook, referenced in this document.

This document can be used in conjunction with the *Building Projects that Build Communities* guidebook. The documents, when used in combination, provide excellent tools for building meaningful, cooperative relationships and in outlining the myriad of issues associated with urban highway design that require consideration.

I-1-4 Community-Based Project Development

One of the most difficult challenges facing the highway community is the provision of safe, efficient transportation service that also conserves and enhances the environmental, scenic, historic, community, and business resources. Construction activity on state routes often requires local, state, and federal agency input and consideration. These projects as well as local agency transportation projects may also impact businesses, neighborhoods, and other interest groups depending on location and improvement efforts.

As such, it is vitally important for project proponents to provide meaningful opportunities for involvement by other agencies and interest groups in the project development process. This requires the use of a collaborative, interactive partnership that involves good communication and relationship building.

Meaningful involvement by the community and other interest groups will likely result in a project that incorporates the needs of a variety of user groups; is readily accepted by the community; and presents a possible savings in project costs by avoiding potential delays and revisiting of design decisions later in the development process.

WSDOT has recently developed a guidebook to assist practitioners in implementing the community-based approach. The *Building Projects that Build Communities* guidebook features effective processes for building important partnerships, as projects are planned and developed.

Managing Project Delivery (MPD) Process

The Managing Project Delivery Process is an approach the WSDOT utilizes to deliver projects. The process calls for collaborative interaction with a variety of user groups, in order to develop and deliver projects on time and within budget. The following key features define the approach:

- Building an interdisciplinary team, who have the necessary skills for the project;
- Including the customers in the project delivery process;
- Communicating;
- Managing customer expectations; and
- Managing change.[3]

I-1-5 Using This Document

This document provides a compilation of the issues that are associated with urban highway design; discusses the tradeoff considerations related to each issue; and prompts the user to think about how a particular consideration impacts other factors related to urban highway design. The content of this document is not intended to be design standards; rather, it is simply a learning tool to assist in the development of projects in a manner that is sensitive to the surrounding context. The document is a repository for the ideas and considerations that can be included in the project development and design process.

This document is organized into the following divisions:

- Division II provides background information on the project development process.
- Divisions III, IV, and V provide specific detail on design considerations and the subsequent trade off issues.
- Division VI discusses the liability issues that surround design decisions, particularly when employing flexibility.
- Division VII provides a discussion on a variety of roadway contexts and discusses how the information in Divisions III through V can be applied in those contexts. This division also provides a number of case study examples.

Consider this document a tool to augment existing processes – it provides an additional aid to ensure projects are developed in a manner that considers all users and their respective needs. As noted above, WSDOT is already engaged in community-based decision making. The intent of this document is to assist those efforts and provide users additional information with which to make decisions.

Governing Regulations and Directional Documents

Context Sensitive Solutions Executive Order, WSDOT, E 1028.00.

Design Manual, WSDOT, M 22-01.

A Policy on Geometric Design of Highways and Streets, 4th ed. (Green Book), American Association of State Highway and Transportation Officials (AASHTO), Washington D.C., 2001.

Roadside Classification Plan (RCP), WSDOT, M 25-31.

[3] WSDOT, *Design Manual*, Chapter 140

Washington State Highway Systems Plan: 2003-2022, WSDOT Transportation Planning Office, Olympia, WA, 2002. http://www.wsdot.wa.gov/ppsc/hsp/pdf/HSP-2003-2022.pdf

Washington's Transportation Plan: 2003-2022, Washington State Transportation Commission and WSDOT, Olympia, WA, 2002. http://www.wsdot.wa.gov/ppsc/planning/

I-1-6 Additional Resources

Community Partnerships Forum, *Building Projects that Build Communities – Recommended Best Practices*, WSDOT, Olympia, WA, 2003. http://www.wsdot.wa.gov/biz/csd/BPBC_Final/

Context Sensitive Design/Thinking Beyond the Pavement, Federal Highway Administration (FHWA), http://www.fhwa.dot.gov/csd/index.htm

Context Sensitive Solutions, WSDOT, http://www.wsdot.wa.gov/biz/csd/

Gee, King W., FHWA Associate Administrator for Infrastructure, October 29, 2002 Memo, http://www.fhwa.dot.gov/csd/102902.htm

Highways & Local Programs, WSDOT, http://www.wsdot.wa.gov/TA/Operations/Operations.html

Main Street…When a Highway Runs Through It: A Handbook for Oregon Communities, Transportation and Growth Management Program, Oregon Department of Transportation and the Oregon Department of Land Conservation and Development, Salem, OR, 1999.

Milton, John C., P.E., Assistant State Design Engineer – Urban Corridors, miltonj@wsdot.wa.gov, WSDOT Design Office, MS 47330, Olympia, WA 98504, 2004.

Neuman, Schwartz, Clark and Bednar, *A Guide to Best Practices for Achieving Context Sensitive Solutions*, NCHRP Report #480, Transportation Research Board, Washington, D.C., 2002, p. 50.

Peters, Mary E., FHWA Administrator, October 11, 2002 Memo, http://environment.fhwa.dot.gov/strmlng/mepstew.htm

Safety, Aesthetics and Context Sensitive Design, Design Office, WSDOT, http://www.wsdot.wa.gov/eesc/design/Urban/Safety,Aesthetics,&ContextSensitiveDesign.htm

Vital Few Environmental Streamlining and Stewardship Goals, FHWA, http://environment.fhwa.dot.gov/strmlng/es4vitalfew.htm

When Main Street is a State Highway, Maryland State Highway Administration, Baltimore, MD, 2001. http://www.sha.state.md.us/businessWithSHA/projects/ohd/Mainstreet/MainStreet.pdf